AMERICAN MUSEUM NOVITATES

Number 862 Published by THE AMERICAN MUSEUM OF NATURAL HISTORY New York City June 23, 1936

STUDIES OF PERUVIAN BIRDS. XXI[1]

NOTES ON THE GENERA *PSEUDOCOLAPTES, HYLOCTISTES, HYLOCRYPTUS, THRIPADECTES,* AND *XENOPS*

BY JOHN T. ZIMMER

This paper concludes the discussion of the new birds diagnosed in No. XVIII of the present series (American Museum Novitates, No. 819).

I am greatly indebted to Dr. C. E. Hellmayr for notes on certain specimens in European museums, and to Dr. Herbert Friedmann of the U. S. National Museum for the loan of certain critical specimens in that institution. Material from other museums, listed in places, was examined at one time or another in connection with other studies and has been otherwise acknowledged. For such generous loans I am indebted to the authorities of the Carnegie Museum, Field Museum of Natural History, the Museum of Comparative Zoölogy, and the Zoological Museum of Munich, Germany.

Names of colors, when capitalized, indicate direct comparison with Ridgway's 'Color Standards and Color Nomenclature.'

Pseudocolaptes lawrencii johnsoni Lönnberg and Rendahl

Pseudocolaptes johnsoni LÖNNBERG AND RENDAHL, 1922, Ark. Zool., XIV, No. 25, p. 69—"Baeza, road to Napo, 6000 ft." (? errore = western side of Andes); ♀; Stockholm Mus.

There appears to have been considerable confusion in identifying this interesting form. The type is said to be a skin obtained from native collectors by Ludovico Söderström, ostensibly at Baeza. On the basis of this data, a form of *boissonneautii* commonly occurring at Baeza has been known as *johnsoni* although the original description characterizes a quite different form with unstreaked rufous back, grayish crown (finely streaked), spotted, rather than striped breast, and dull buffy post-malar tufts. Chapman (1926, Bull. Amer. Mus. Nat. Hist., LV, p. 439) described this plumage as the supposedly immature dress of *P. b. boissonneautii.* In a series of birds from Colombia and Ecuador representing typical *boissonneautii* there are now at hand several specimens which are rather clearly immature but they disagree entirely with

[1] Earlier papers in this series comprise American Museum Novitates, Nos. 500, 509, 523, 524, 538, 545, 558, 584, 646, 647, 668, 703, 728, 753, 756, 757, 785, 819, 860, and 861.

the plumage described. At the same time three of four birds at hand from Ecuador, in the plumage described, are not, in my opinion, immature; one is doubtfully so.

The birds, which I take to be the young of *boissonneautii*, have the whole top of the head solidly black, unstreaked; the streaks on the mantle are more warmly colored than in the adults; the belly is quite deeply colored (Xanthine Orange × Amber Brown); the dark margins of the pectoral feathers are unusually heavy and blackish; and the gular feathers are distinctly tipped with dusky, often up to the point of the chin. Salvadori and Festa (1899, Boll. Mus. Torino, XIV, No. 363, p. 22) also note the solid black top of the head in what they, too, believe to be the young of *boissonneautii*.

The three supposedly young birds from northern Ecuador are, I believe, quite adult, but unfortunately they are native-made skins and, through they are labeled as from near Gualea, etc., the data are not to be trusted. A fourth skin is quite reliable, having been collected by George K. Cherrie at El Chiral, on the western side of the Andes. These four birds agree minutely with Lönnberg and Rendahl's careful description of *johnsoni* and leave no doubt as to the proper application of that name. The range certainly is not restricted to the eastern side of the Ecuadorian Andes and may actually be restricted to the western side, probably from near Gualea south to El Chiral; the exact limits have yet to be determined and El Chiral remains the only definitely, known locality.

El Chiral is at an elevation of 5350 ft. in the Subtropical Zone and there are specimens of certain subspecies of *boissonneautii* from even lower elevations on the western side of the Andes, although most of them are from higher altitudes. Consequently, it is not possible to consider *johnsoni* as a zonal representative of *boissonneautii*. La Unión, Ecuador, whence Berlepsch and Taczanowski (and Hellmayr) record typical *boissonneautii*, is in the region between El Chiral and Gualea and if *johnsoni* be considered as a geographic representative of *boissonneautii*, the La Unión bird should be referable to it; yet no striking features about this skin have been recorded, though they could hardly have been overlooked, if present. A skin from Salvias, very close to El Chiral though in the Tumbez instead of the Santa Rosa, drainage, belongs to the *boissonneautii* group and is totally unlike *johnsoni*.

So long as the range of *johnsoni* is so little understood, with a possibility of conflict with that of *boissonneautii*, I believe it best to keep it specifically distinct. Its affinities are close to *lawrencii* of southern

Central America and perhaps it is well to maintain a *lawrencii* group until the affinities and distribution can be studied in greater detail. Accordingly, I have called the present form *P. lawrencii johnsoni.*

More material is needed from Panamá to determine the stability of *P. lawrencii panamensis.* The type is easily distinguishable from Costa Rican examples of *lawrencii* but a second male, from Chitrá, Veraguas, east of the type locality, Cerro Flores, is much less distinct and is not very different from Costa Rican birds, although the back is very slightly duller and the bill a little heavier and more curved on the culmen.

Several trade-skins from northern Ecuador, labeled as from Nanegal, Gualea, and Mindo, represent the once-described "*oberholseri.*" They are somewhat more heavily margined on the feathers of breast and belly than average *boissonneautii*, but are closely approached in this respect by some Colombian birds. The tails are a little darker rufous than those of any of the Colombian birds at hand, but Hellmayr has reported that this character is variable. The colors of the head and back are perhaps a little warmer than in average *boissonneautii* but are of the same general hues. Without more definitely labeled material I hesitate to suggest the recognition of *oberholseri* whose range, if distinct, must be rather limited.

Pseudocolaptes boissonneautii orientalis Zimmer

Pseudocolaptes boissonneautii orientalis Zimmer, 1935 (Sept. 17), Amer. Mus. Novitates, No. 819, p. 6—above Baeza, northeastern Ecuador; ♂; Amer. Mus. Nat. Hist.

The transference of the name *johnsoni* to the birds of western Ecuador necessitated the renaming of the northeast-Ecuadorian form as cited herewith. The type may be described as follows.

Description of Type.—Top of head blackish with fine hair streaks of buff, broader on the forehead, nearly obsolete on the occiput; hind neck with the streaks somewhat broader and more diffuse, giving a brownish tinge to the area; mantle broadly striped with pale buff, often rather whitish, the stripes well defined and not reaching the tips of the feathers; margins of the feathers of the upper mantle noticeably blackish, those of the lower mantle dark Cinnamon Brown; middle of the back with the shaft-stripes narrower; lower back and upper tail-coverts bright Tawny × Ochraceous-Tawny. Lores blackish; a narrow superciliary stripe of dull buff, with the component feathers margined and tipped with dusky; upper part of auriculars blackish, with dull, pale shaft-streaks, not very prominent; lower part of auriculars, malar region (except for a narrow blackish line under the eye), chin and upper part of throat clear white, the malar area terminating posteriorly in a long tuft of silky white feathers; lower part of the throat whitish with dusky tips; breast with dusky borders to the feathers leaving a broad rounded central spot of pale buff;

sides with the dark borders heavier and blacker and the central spots somewhat tinged with ochraceous; flanks orange-ochraceous with dusky tips on the feathers in the upper part of this area; upper belly much like the breast; lower belly approaching Cinnamon-Buff, with dusky tips on the upper feathers becoming obsolete posteriorly; under tail-coverts clear Ochraceous-Tawny × Clay Color. Wings blackish, with exposed outer webs of the remiges warm Brussels Brown; inner margins with a Light Ochraceous-Buff edge, withdrawn toward the base of the outer quills; upper wing-coverts black with light brown outer margins on the greater and middle series, brightening to Cinnamon on the broad tips of the feathers; scapulars Saccardo's Umber, unstreaked; under wing-coverts bright Ochraceous-Buff. Bill (in dried skin) with maxilla black; mandible yellowish, with a brownish line paralleling the tomia. Feet dark brown. Wing, 117.25 mm.; tail, 98; exposed culmen, 17; culmen from base, 22; tarsus, 30.

REMARKS.—Female like the male but smaller, though with a much longer bill; wing, 102–108.25 mm.; tail, 91.5–102; culmen from base 28.25–29. The males show a range of variation of the wing, 108–117.25; tail, 91.5–102; culmen from base, 21.5–24.

A bird from Loja (southern Ecuador, on the eastern side of the Andes) is nearly typical. Skins from Taraguacocha, Salvias, and San Bartolo, on the western slopes, are also closer to this form in color than to the duller-backed *intermedianus* of northwestern Perú, although the bill is slightly longer (culmen from base: ♂♂, 24–25; ♀♀, 30, 31) as in *intermedianus*. The series probably must be referred to *orientalis* although this leaves *intermedianus* with a very restricted range, a not unusual circumstance in birds from this region.

Pseudocolaptes boissonneautii intermedianus Chapman

Pseudocolaptes boissonneauti intermedianus CHAPMAN, 1923 (August 28), Amer. Mus. Novitates, No. 86, p. 14—El Tambo, Dept. Piura, Perú; ♂; Amer. Mus. Nat. Hist.

The type and a female from El Tambo and a not quite adult male from Palambla are the only specimens unquestionably of this form. The skins from southern Ecuador, referred by Dr. Chapman to *intermedianus*, are intermediate between it and *orientalis* of eastern Ecuador, as mentioned in the account of *orientalis*. If the length of bill is taken as the prime criterion, the south-Ecuadorian birds might be assigned to *intermedianus* but they are much more boldly striped on the mantle (the stripes more whitish, less ochraceous, and the margins of the feathers darker) and the dusky tips of the chest-feathers are continued well over the lower throat, both characters as in *orientalis*. One male, from Taraguacocha, is less boldly marked above than the rest of this series and, alone, might be placed with *intermedianus*, but other skins from

the same locality do not agree with it. The single female of typical *intermedianus* has the bill not only longer than any of the Ecuadorian birds, but also broader at the base, but this is of doubtful significance since the males do now show the same feature. However, it is suggested in birds from Taulis and Chugur as discussed under the next form.

The range of *intermedianus* thus appears to be highly restricted, but it represents a definite stage in the geographical sequence within the species and should be maintained.

Pseudocolaptes boissonneautii pallidus Zimmer

Pseudocolaptes boissonneautii pallidus ZIMMER, 1935 (Sept. 17), Amer. Mus Novitates, No. 819, p. 6—Taulis, Perú; ♀; Amer. Mus. Nat. Hist.

As noted under *intermedianus*, the birds from Taulis and Chugur, Perú, show certain noticeable differences from the specimens from the Palambla region, and accordingly I named the form cited herewith. The full description is as follows.

DESCRIPTION OF TYPE.—Top of head blackish brown (more blackish on the anterior portion) with crown and occiput marked with not very strong shaft-streaks of Brussels Brown; forehead more blackish, with lateral borders broadly dull whitish; hind neck with shaft-stripes becoming somewhat broader than on crown; mantle darker than Sudan Brown, rather sharply contrasted with the hind neck, with moderately broad but ill-defined shaft-spots of pale buff, becoming more ochraceous toward the distal end; streaks on lower part of mantle much narrower and less conspicuous, being obsolete on the lowermost feathers; scapulars Saccardo's Umber, unstreaked; uropygium bright Cinnamon-Rufous, darkening to Sanford's Brown on the longest upper tail-coverts. Lores sooty; above the eye and the auriculars, a narrow buffy whitish superciliary stripe; postocular region and upper auriculars blackish, with inconspicuous brownish shaft-lines; lower auriculars, malar region, chin, and throat between Marguerite Yellow and Naphthalene Yellow, passing on the long, post-malar tufts into silky white; lower throat with fine, brownish tips, only a little more conspicuous on the middle of the breast; sides of breast more ochraceous, with terminal margins broader and more blackish; belly largely Cream Buff, paler on upper portion where the dark terminal margins of the pectoral feathers are barely apparent; approaching Chamois on the lower portion, immaculate; flanks darker and warmer, Ochraceous-Tawny × Buckthorn Brown; under tail-coverts near bright Ochraceous-Tawny. Remiges blackish with inner margins Pale Ochraceous-Buff; outer margins (except on outermost primary) dull Cinnamon Brown; tertials a little brighter; upper wing-coverts blackish; greater series broadly tipped with Light Pinkish Cinnamon on outer ones, Sayal Brown on inner ones; median series less conspicuously tipped with dull Sayal Brown; lesser series with tips still darker and duller; under wing-coverts bright cinnamomeous Ochraceous-Buff, much paler along carpal margin. Tail dark Sanford's Brown, graduated for the terminal 26 mm. Maxilla black (in dried skin); mandible pale yellowish along gonys and (narrowly) along tomia with a narrow blackish stripe between; feet dull

blackish brown. Wing, 110 mm.; tail, 101; exposed culmen 26; culmen from base, 30; tarsus, 26.5.

REMARKS.—Males like the females in color, with longer wing and tail but with shorter bill. Wing, 124–129 mm.; tail, 113–117; culmen from base, 24–25.25. Females: wing, 111–114; tail 101; culmen from base, 30–32.

This form represents *medianus* on the western side of the Andes and differs from it in color much as *intermedianus* differs from *orientalis*, by having the mantle less contrastingly striped. It is, in fact, a pale *intermedianus* with a yellowish throat. The bill appears to average a little broader at the base than in *medianus*.

The birds from Chugur, nearer the main western chain of the Andes than Taulis, are not so strongly marked as the Taulis birds but appear to belong here rather than with *medianus*. Probably the records from Nancho belong here also.

Young examples of *pallidus* have rather solidly black caps, like the young of *boissonneautii*, and are more heavily marked on the breast and more richly colored on the lower under parts. In the strong rufous-ochraceous color of the belly they resemble *medianus*, but the mantle remains rather dully streaked and serves to identify the subspecies.

Pseudocolaptes boissonneautii medianus Hellmayr

Pseudocolaptes boissonneautii medianus (err. typ.) HELLMAYR, 1919 (Feb. 25), Anz. Orn. Ges. Bayern, I, p. 3—Leimebamba, Perú; ♀; Munich Mus.

A series from the Chachapoyas region is relatively uniform with respect to certain characteristics. The stripes on the mantle are quite broad and conspicuous, with sooty borders, at least on the anterior portion of the area. This is the typical *medianus* which has a range almost as restricted as the ranges of *pallidus* and *intermedianus*. Records which may be assigned here without hesitation are from Llui, Utcubamba, and Chachapoyas. Carriker (1934, Proc. Acad. Nat. Sci. Phila., LXXXVI, p. 321) says that Cajamarca birds are exactly like Leimebamba specimens and refers Chira skins to the same form, and with this association it is probable that a Cutervo record belongs here also.

A specimen recorded from Cumpang, middle Huallaga region, appears to belong here although a skin from the upper Huallaga is nearer *auritus*. The Cumpang bird is said to have the post-malar tufts pure white.

Pseudocolaptes boissonneautii auritus (Tschudi)

A(nabates) auritus (LICHTENSTEIN MS.) TSCHUDI, 1844 (May), Arch. Naturg. X (1), p. 294—Perú (Maraynioc suggested, Hellmayr, 1925); Berlin Mus.

Pseudocolaptes boissonneaui flavescens BERLEPSCH AND STOLZMANN, 1896, P. Z. S. London, p. 374—part, Maraynioc and Pariayacu; cotypes in Frankfort Mus. and Amer. Mus. Nat. Hist.

Birds from the Junín district are very like *medianus* in dorsal aspect, but the bill, especially that of the female, is shorter and the post-malar tufts are more or less washed with yellowish at the tips although their feathers are otherwise pure white.

Carriker (*loc. cit.*) has proposed to change the type locality to Monterico, but there is no evidence at hand to justify this proposal. No facts have ever been cited to indicate that B. Philippi, the collector of the type, reached the Department of Ayacucho or any point in the interior of Perú south of the neighborhood of Maraynioc, a place where much of his material was obtained. Furthermore, Dr. Hellmayr has studied the type in comparison with birds from Maraynioc and from southeastern Perú, kindly making a re-examination for me at a recent date. His conclusions are that the type is in good agreement with the Maraynioc form although, being an old mounted bird, the yellow color of the throat is faded to a mere tinge of that hue while that of the post-malar tufts is all reduced to white. Tschudi's original description of these tufts, made when the specimen was considerably fresher, speaks of them even then as white. The mantle-feathers are margined with olive brown (not blackish or olive blackish, as in the southeast-Peruvian specimens). The evidence, therefore, is against the association of the type with the birds from the southeastern part of the country.

Three skins from the Urubamba Valley (Torontoy and Tocopoqueu) are like Junín specimens in regard to the brownish-edged mantle-feathers, relatively light rufous uropygium, and pale flanks, but the post-malar tufts have a greater suffusion of yellow, approaching the condition in the southeastern birds. Affinity thus appears to be rather with the Junín and Maraynioc birds in spite of the single character of the post-malar coloration. No specimens have ever been recorded from the Department of Ayacucho.

A cotype of "*flavescens*" from Pariayacu agrees with Maraynioc and Chilpes examples in respect to the lighter rump and the more whitish post-malar tufts, but the mantle-feathers are edged with a shade rather darker than in the other central-Peruvian birds at hand though slightly warmer and not quite so blackish as in even the palest skin from

the southeast. It probably represents the dark extreme of true *auritus*.

There is much resemblance between *auritus* and *medianus*, but *medianus* has an even paler uropygium and more extensively white post-malar tufts, in addition to which the females have the bill decidedly longer, both actually and in comparison with that of the males, though the latter is slightly longer also than in the same sex of *auritus*. A female from near Panao, northern Junín, has a bill slightly longer than the measurements given by Berlepsch and Stolzmann for the female of "*flavescens*" though more distinctly smaller than the bill of female *medianus*, while the color characters agree with *auritus*. I would, therefore, transfer the record from *medianus*, where I formerly placed it (1930, Field Mus. Nat. Hist. Publ., Zool. Ser., XVII, p. 347) to *auritus*. Carriker's specimen from Huacapistana must belong here also.

Berlepsch and Stolzmann, when describing "*flavescens*," noted the more yellowish post-malar tufts of Bolivian specimens as I have mentioned for southeast-Peruvian specimens. This difference is accompanied by other characters of some stability and it is possible to recognize a separate form in this southern area which may be described as follows.

Pseudocolaptes boissonneautii carabayae, new subspecies

TYPE from "Camp 1" below Limbani, southeastern Perú. No. 149910, American Museum of Natural History. Adult male collected March 11, 1917, by Harry Watkins; original number 735.

DIAGNOSIS.—Similar to *P. b. auritus* of central Perú, but with the margins of the mantle-feathers darker, more sooty brown, and the pale shaft-stripes somewhat more sharply defined; post-malar tufts with the yellowish suffusion reaching well toward the bases of the feathers; uropygium more deeply rufescent; flanks darker and browner.

RANGE.—Southeastern Perú (and probably northern Bolivia) in the Subtropical Zone.

DESCRIPTION OF TYPE.—Top of head blackish with a slightly brownish tone, narrowly streaked with Brussels Brown on the shafts; on the forehead the streaks are wider and more conspicuous but paler, more buffy; hind neck with streaks also broader but more fulvous; mantle with broad shaft-spots of buffy whitish or pale buff, deeper terminally, and on the anterior part of the mantle margined sharply and strongly with blackish; over most of the remaining portions of the mantle, the feathers are margined with Mummy Brown; on the posterior portion the margins are Prout's Brown though the tips of the feathers are blackish, and the pale shaft-spots are narrower and less sharply defined; scapulars dark Dresden Brown × Cinnamon Brown, unstreaked; rump and upper tail-coverts dark Sanford's Brown. Lores whitish surmounted by an ochraceous border continued over the eye and auriculars in a conspicuous superciliary stripe, deeper in color posteriorly; auriculars

blackish, with some of the shafts inconspicuously pale fulvous and with the lower feathers largely ochraceous at tips, pale yellowish at bases; chin, throat, malar region, and a conspicuous post-malar tuft of lengthened feathers Marguerite Yellow × light Naphthalene Yellow; lower throat-feathers lightly tipped with dusky; chest similar to lower throat but with a gradually increasing tendency toward ochraceous on the sides of the feathers; sides of breast more strongly ochraceous and with the dark terminal borders broader and more blackish; lower breast like chest but more strongly ochraceous with a slight decrease in the dusky markings; belly still deeper in color, with dark margins not conspicuous; flanks deeper, Amber Brown × Sudan Brown; under tail-coverts warmer, Amber Brown × Sanford's Brown. Wings blackish with exposed outer margins of the remiges near Prout's Brown, paler, near light Cinnamon Brown on the tertials; outer primary entirely blackish; inner margins of remiges and the under primary-coverts slightly pinker than Light Ochraceous Buff; upper primary-coverts blackish; greater and median upper wing-coverts largely blackish, with outer margins light rufous brown and the tips broadly Pinkish Cinnamon; lesser series blackish with some inconspicuous brownish tips on the longest feathers; under wing-coverts (except primary series) and the axillars deep orange-tinted Ochraceous-Buff. Tail light Auburn, graduated for 25 mm. from the tip. Wing, 112 mm.; tail, 98; exposed culmen, 18.5; culmen from base, 23; tarsus, 27.

REMARKS.—Females like the males but with shorter wing and tail and slightly longer bill. Wings, ♂♂, 112, ♀♀, 98, 99; tail, ♂♂, 97.5, 98, ♀♀, 85–88.5; culmen from base, ♂♂, 21.5, 23, ♀♀, 23.12–25.5.

Thus there are found in Perú an unusually large number of subspecies of a single group, each with a comparatively limited range and each, in a sense, intermediate between the two adjacent forms. Nevertheless, the boundaries limiting each subspecies are those which are functional at one time or another in various other species.

Beginning with *intermedianus* we have a bird distinguishable from its more northern neighbor, *orientalis*, by its long bill and relatively dully streaked back, but with the same white throat and post-malar tufts.

South of this is *pallidus*, with even duller back and paler belly and with long bill and white post-malar tufts but with a yellowish throat.

Across the mountains to the eastward is *medianus*, with the back more strongly marked and the belly darker but with the throat and post-malar tufts as in *pallidus*. In central Perú is *auritus*, with the back as in *medianus* but with the ear-tufts inclined to yellowish and with noticeably shorter bill. In southeastern Perú is *carabayae*, with a still more heavily marked back and more strongly yellowish ear-tufts, though with an equally short bill.

The union of any two of these groups could be made on the basis of

one or more criteria, leaving the balance of the characters to demonstrate the relationship with the next form in the series. However, it would be difficult to say where the lines should be drawn to best advantage in such case, and half of the material would be atypical, while the forms thus arbitrarily dropped would actually be as recognizable as the typical populations of the forms retained. It has seemed best, therefore, to recognize this unusually large number of forms, each of which occupies its own range.

SPECIMENS EXAMINED

P. l. lawrencii.—COSTA RICA: Volcan Turrialba, 3 ♂; Volcan Irazú, 2 ♂.

P. l. panamensis.—PANAMÁ; Cerro Flores, 1 ♂ (type); Chitrá, 1 ♀.

P. l. johnsoni.—ECUADOR: El Chiral, 1 ♂; "Gualea," 1 ♂; "road to Gualea," 1 ♀; "Ecuador," 1 ♂.

P. b. boissonneautii.—COLOMBIA: "Bogotá," 3 (?); La Candela, 1 ♀; La Florida, 1 ♂; Santa Elena, 1 ♀; Cerro Munchique, 1 ♂, 1 ♀; coast range west of Popayan, 1 ♂, 1 ♀; Santa Isabel, 1 ♂ 1 ♀; Almaguer, 1 ♂; Laguneta, 2 ♂; El Roble, 1 ♀; above Salento, 1 ♂; "Sabana larga," 1 (?). ECUADOR: "Mindo," 1 ♂; west side of Pichincha, 1 ♂; "Gualea," 1 ♂; "Quito," 1 ♀.

P. b. meridae.—VENEZUELA: Escorial, 1 ♂; Culata, 1 ♂; Valle, 1 ♂.

P. b. orientalis.—ECUADOR: above Baeza, 2 ♂ (incl. type), 1 ♀; Baeza, 1 ♂; below Baeza, 2 ♀; Oyacachi 1 ♂; upper Sumaco, 2 ♂, 1 ♀; below Papallacta, 1 ♀; Loja, 1 ♂; San Bartolo, 1 ♂[1]; Salvias, 1 ♂[1]; Taraguacocha, 1 ♂[1], 2 ♀[1].

P. b intermedianus —PERÚ: El Tambo, 1 ♂ (type), 1 ♀; Palambla, 1 ♂.

P. b. pallidus.—PERÚ: Taulis, 2 ♂, 4 ♀ (incl. type); Chugur, 4 ♂.

P. b. medianus.—PERÚ: La Lejia, 4 ♂, 2 ♀; San Pedro south of Chachapoyas, 1 ♂, 1 ♀; Leimebamba, 2 ♀, 2 "♂" = ♀.

P. b. auritus.—PERÚ: Pariayacu, 1 ♂ (cotype of *flavescens*); Maraynioc, 1 ♂; Chilpes, 1 ♂; Torontoy, 1 ♂, 1 ♀[1]; Tocopoqueu (Occobamba Valley), 1 ♂[2]; Panao, 1 ♀[3].

P. b. carabayae.—PERÚ: below Limbani, 2 ♂ (incl. type); Santo Domingo, 3 ♀.

Hyloctistes subulatus subulatus (Spix)

Sphenura subulata SPIX, 1824, 'Av. Bras.,' I, p. 82, Pl. LXXXIII, fig. 1—in sylvis fl. Amazonum; ♀; Munich Mus.

Ipoborus (*Automolus*) *stictoptilus* CABANIS, 1873, Jour. für Orn., XXI, p. 66—Monterico, Perú; Berlin Mus.

Two males from Santa Rosa, upper Ucayali, and a female from Anayacu, Río Amazonas, are at hand from Perú. The Santa Rosa birds are a trifle brighter ochraceous below than a series from eastern Ecuador with which the Anayacu bird is in perfect agreement; also the streaks on the back are slightly more prominent, especially in one of the

[1] Not typical.
[2] Specimen in U. S. National Museum, Washington.
[3] Specimen in Field Museum of Natural History, Chicago.

Santa Rosa birds which is not fully adult. The Ecuadorian series is variable in both these respects and some extremes are hardly distinguishable from the adult from Santa Rosa.

On the other hand, one bird from Florencia, eastern Colombia, reaches another extreme by its reduction of streaks on the mantle and is equalled by three birds from the vicinity of Mt. Duida, Venezuela, and the upper Rio Negro, Brazil. These four birds are more richly colored than the east-Ecuadorian average, with one of them more strongly lined than the Peruvian skins. However, several Ecuadorian birds are a match for the other three specimens of this type.

Taczanowski (1884, 'Orn. Pérou,' II, p. 149) notes certain differences in a Monterico specimen (= *stictoptilus* Cabanis) as compared with skins from Yurimaguas, Chamicuros, and the Huallaga, which he assigns to *subulatus*, but these differences reappear as purely individual in our series from various localities. However, should birds from south of the Amazon prove to be constantly brighter ochraceous below than east-Ecuadorian skins, the name *stictoptilus* may be available for them.

Hellmayr (1910, Novit. Zool., XVII, p. 320) found a specimen from Calamá, Rio Madeira, Brazil, to be brighter below than the type of *subulatus*, ascribing the difference to the faded condition of the type. More material from south of the Amazon is needed to determine the constancy of this variation which appears to be too slight, as demonstrated by the material in hand, to support a separate name.

Specimens Examined

H. s. subulatus.—Perú: Santa Rosa, Río Ucayali, 2 ♂; Anayacu, 1 ♀. Ecuador: mouth of Río Curaray, 2 ♂, 1 ♀; mouth of Lagarto Cocha, 1 ♂; below San José, 3 ♀; lower Río Suno, 2 ♂, 2 ♀; Río Suno, above Avila, 4 ♂, 1 ♀. Colombia: Florencia, 1 ♀. Brazil: Tatú, Rio Negro, 1 (?). Venezuela: Mt. Duida, Caño Seco, 1 ♂; Río Orinoco, above Ihuapo, 1 ♂.

H. s. assimilis.—Ecuador: Chimbo, 1 ♂; Río de Oro, 1 ♀. Colombia: Barbacoas, 3 ♂, 4 ♀; Juntas de Tamaná, 1 ♀; Buenavista, 1 ♂; Nóvita, 1 ♀, 1 (?). Panamá: Tacarcuna, 1 ♂, 1 ♀.

H. s. virgatus.—Panamá: Río Calovévora, 4 ♂, 2 ♀; Chitrá, 1 ♀.

H. s. nicaraguae.—Nicaragua: Río Grande, 2 ♂; Peña Blanca, 1 ♂.

Hylocryptus erythrocephalus erythrocephalus Chapman

Hylocryptus erythrocephalus Chapman, 1919 (Dec. 31), Proc. Biol. Soc. Wash. XXXII, p. 259—Alamor (Ecuador); ♀; Amer. Mus. Nat. Hist.

Two specimens from Paletillas, Perú, paratypes of *erythrocephalus*, belong to the typical form without question. Four additional skins from Palambla, Perú, are not quite identical with the more northern

birds although they agree with each other in the features which distinguish them from true *erythrocephalus*. They have been named as follows.

Hylocryptus erythrocephalus palamblae Zimmer

Hylocryptus erythrocephalus palamblae Zimmer, 1935 (Sept. 17), Amer. Mus. Novitates, No. 819, p. 6—Palambla, Perú; ♂; Amer. Mus. Nat. Hist.

Description of Type.—Whole top of head and hind neck light Hazel, spreading slightly over the anterior part of the mantle but sharply separated from the rest of the mantle which is Grayish Olive × Light Grayish Olive; rump and upper tail-coverts Tawny × Ochraceous-Tawny. Chin buffy, deepening into deep Ochraceous-Buff on the throat and merging over the sides of the head with the Hazel of the crown; lores more whitish, with ochraceous tips; breast dull olive-buff; belly paler; flanks darker and browner; under tail-coverts pale Ochraceous-Tawny with basal feathers like the breast. Wings externally Hazel with a slight golden wash on the outer margins of the secondaries; lesser upper wing-coverts like the crown; under wing-coverts and inner margins of the remiges Cinnamon × Ochraceous-Buff. Tail dark Hazel. Bill (in dried skin) pale horn-color, darker at base of maxilla; feet brown. Wing, 95 mm.; tail, 88; exposed culmen, 28; culmen from base, 33; tarsus, 28.

Remarks.—Females like the male but slightly smaller. Wing, 88–90 mm.; tail, 82–84; culmen from base, 31.5–33; tarsus, 27–28.

In *H. e. erythrocephalus*, the male shows the wing, 97 mm.; tail, 89; culmen from base, 32; tarsus, 28. Females: wing, 94 mm.; tail, 86–89; culmen from base, 31.25–32; tarsus, 28–28.25.

There is a similar distinction between the birds of Alamor and Palambla in the case of *Automolus ruficollis*, in which, it may be recalled (cf. Amer. Mus. Novitates, No. 785, p. 23), the Palambla form ranges somewhat farther southward, to Chugur and Taulis, becoming even more strongly marked in the southern part of the range. It is not impossible that *Hylocryptus* also ranges to Chugur and Taulis although it was not found there by Mr. Watkins.

Dr. Hellmayr (1925, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII (4), p. 226, footnote *b*) suggests the possible affinity of *Automolus rectirostris* to the present species, although he made no direct comparison. I have compared the type of *rectirostris* with the series of *Hylocryptus* and find that this affinity is very evident. The type of *rectirostris* is faded and has the tail in molt, but the pattern is the same in both although *rectirostris* has a whitish instead of deep ochraceous throat and creamy Cinnamon-Buff instead of dull olive-buff breast and belly. The bill is of the same shape as in *erythrocephalus*, although it is shorter, and the tarsus also is slightly shorter, but the wing and tail are near the measurement of *erythrocephalus*.

I have no hesitation, therefore, in assigning *rectirostris* to the genus *Hylocryptus* although it is best left as a distinct species. The ranges of the two species are widely separated with no related form known from the intervening area.

SPECIMENS EXAMINED

H. e. erythrocephalus.—ECUADOR: Alamor, 1 ♀ (type); La Puente, 1 ♂. PERÚ: Paletillas, 2 ♀.

H. e. palamblae.—PERÚ: Palambla, 1 ♂ (type), 3 ♀.

H. rectirostris.—BRAZIL: [= Minas Geraës, boundary line of Bahia and Minas Geraës], 1 ♀ (type).

Thripadectes holostictus moderatus Zimmer

Thripadectes holostictus moderatus ZIMMER, 1935 (Sept. 17), Amer. Mus. Novitates, No. 819, p. 7—Nequejahuira, Río Unduavi, Bolivia; ♂: Amer. Mus. Nat. Hist.

DESCRIPTION OF TYPE.—Top of head sooty black with narrow, buffy shaft-streaks; mantle slightly browner, with shaft-streaks a little wider but not sharply defined from the dark margins; upper tail-coverts light Auburn; lower rump the same, passing into light Argus Brown on the upper rump. Lores buffy whitish; a narrow superciliary stripe of deeper buff, only a little more conspicuous than the shaft-streaks of the crown; auriculars like the top of the head; chin Warm Buff × Light Buff, with a few traces of dusky markings on the lateral margins of the lower feathers not enclosing the tips of the feathers; throat nearer Warm Buff with the dark lateral margins of the feathers a little more pronounced, dark Saccardo's Umber; malar region like throat but the margins of the feathers more dusky; chest with shaft-stripes somewhat narrower, and lateral margins broader but paler, near Light Brownish Olive; lower breast and sides with shaft-stripes reduced to hair-streaks; belly dark Isabella Color, unstreaked; flanks a little browner; under tail-coverts like the flanks but with the longest feathers warmer, Brussels Brown. Remiges blackish, with outer margins Raw Umber, inner margins pale cinnamomeous, at least at base; upper wing-coverts with middle and greater series warm Cinnamon-Brown with vinaceous shafts; lesser series ferruginous, with darker brown margins; under wing-coverts light Ochraceous-Tawny. Tail dull Bay. Bill (in dried skin) mostly blackish, with base of mandible dark horn-color. Feet dark brown. Wing, 92 mm.; tail, 98; exposed culmen, 21; culmen from base, 25.5; tarsus, 26.25.

REMARKS.—A male from Inca Mine, southeastern Perú, is somewhat warmer in tone, and a male from Mapiri, Bolivia, is even more richly colored, but the pattern is the same as in the type which comes from a locality between Inca Mine and Mapiri. An immature Nequejahuira bird has the under parts darker than in the type though lighter than in the Peruvian example, but the upper surface and the wings are the darkest of the series.

The decrease in the prominence of the pectoral streaks in *moderatus* gives this form a certain resemblance to the *melanorhynchus* group.

Indeed, Sclater misidentified certain Bolivian specimens with *striaticeps* (*melanorhynchus striaticeps*) though the error was later detected by Hellmayr. In *melanorhynchus* the broad, pale centers of the throat-feathers are rather abruptly altered on the chest to narrow shaft streaks (obsolete on the lower breast) of a decidedly paler buffy color than the deep ochraceous tone of the throat. The gular feathers are relatively short and broadly sagittate at their tips with the lateral margins dusky and meeting at the tips of the shafts. In *moderatus* the throat is paler, with the width of the shaft-stripes gradually decreasing posteriad to disappear on the upper belly and flanks, without any definite demarcation in size or color. The lateral margins of the throat-feathers are not so dark nor do they meet at the tips of the shafts, and the feathers are longer and more narrowly tapered.

In *melanorhynchus* the auriculars and malar region form a grayish brown area rather inconspicuously streaked with fine buffy hair-lines. The greater and median upper wing-coverts are not conspicuously paler on the shafts and the lesser series are not pronouncedly rufescent. In *moderatus* the auriculars and malar region are marked like the chest, with broad buffy shaft-stripes and dark lateral margins. The shafts of the upper wing-coverts are conspicuously pale and the lesser coverts have a strong rufescent tinge. In *melanorhynchus* the belly is near Ochraceous-Buff; in *moderatus* it is much duller and more olivaceous or isabelline. The streaks on the mantle of *moderatus* are stronger; the tip of the bill is a little less strongly decurved at tip; the base of the mandible is paler; the difference in length between middle and outer rectrices is greater (30–39 mm. as against 25–31).

These features are all found in *holostictus*, most of them much intensified, and show the positive association of *moderatus* and *holostictus*. Nevertheless there is at least one record which it is not easy to assign to one group or the other.

Although Bolivian specimens have been known heretofore (referred to *holostictus*), there have been no Peruvian records of this species unless a skin collected by Jelski at Chilpes belongs here. Taczanowski (1884, 'Orn. Pérou,' II, p. 148) gives a description, presumably of the Chilpes bird, under the name "*striaticeps*" (= *melanorhynchus*), but this description has many points of variance with that species. The pale shaft-stripes of the upper wing-coverts are not developed in *melanorhynchus*, nor are there any pronounced pale streaks on the lower under parts which, in turn, are ochraceous rather than olivaceous in tone. The opposite is true of *holostictus*, in agreement with Taczanowski's

description; the other given particulars apply equally well to both groups. Taczanowski's mention of strongly streaked belly and flanks suggests that the Chilpes bird may belong rather to typical *holostictus* than to *moderatus*, but the specimen will have to be examined to determine this point. The immature paratype of *moderatus* from the type locality is, indeed, noticeably streaked on the flanks and upper belly though the streaks are mere hair-lines, less developed than the corresponding markings of *holostictus*. The Chilpes bird may possibly be similar. In any case, I strongly suspect that it belongs to the *holostictus* group and not to *melanorhynchus*.

Although the type is from an elevation of 8000 feet, within the Subtropical Zone, this form presumably descends into the upper portion of the Tropical Zone. The skin from the Yungas of Cochabamba is labelled as from 3200 feet.

I am uncertain as to the distinctness of *striatidorsus* from western Ecuador. A single specimen from Pallatanga is slightly warmer below than east-Ecuadorian and Colombian specimens of *holostictus*, with the pale stripes equally broad on the breast but with the dark margins paler, the upper parts browner and less blackish but equally broadly striped, and with the wings more strongly rufescent. More material is needed from this region.

Specimens Examined

T. h. holostictus.—Colombia: "Bogotá," 1 (?); Salento, 1 ♂; above Ibague, 1 ♂; Santa Elena, Antioquia, 2 ♂, 2 ♀, 1 (?); (Antioquia?), 1 (?). Ecuador: Baeza, 1 ♀.

T. h. striatidorsus?—Ecuador: Pallatanga, 1 ♂.

T. h. moderatus.—Perú: Inca Mine, 1 ♂. Bolivia: Nequejahuira, 2 ♂ (incl. type); Incachaca, 1 ♂; Yungas of Cochabamba, 1 ♂; Mapiri, 1 ♂.

Thripadectes melanorhynchus melanorhynchus Tschudi

A(nabates) melanorhynchus Tschudi, 1844 (May), Arch. Naturg., X (1), p. 295—Perú (= forest region between 10° and 12° south lat.; Tschudi, 1846); Neuchâtel Mus.

I have no Peruvian examples of this species. Aside from the type specimen, there are records from Río Cadena and Marcapata and a specimen from Huaynapata in the Vienna Museum. The skin from Chilpes, collected by Jelski and referred to "*striaticeps*" by Taczanowski (1884, 'Orn. Pérou,' II, p. 148) may have been wrongly identified and is possibly referable to the *holostictus* group; it is discussed under that species.

A single specimen is at hand from eastern Colombia which differs notably from Ecuadorian examples. The Ecuadorian birds are much darker and more sooty on the back and head, with broader streaks on the mantle, and have more sooty auriculars, less rufescent wings, a somewhat more dusky wash on the breast, and a less slender bill. Berlepsch and Hellmayr (1905, Jour. für Orn., p. 14) note that a female from Mapoto, Ecuador, is less blackish on the back and less reddish on the breast than skins from southeastern Perú, which Hellmayr confirms in a recent letter to me. If typical *melanorhynchus* from Perú is darker than the Ecuadorian birds, the Colombian example, at the other extreme, may deserve separation under the same *striaticeps*, described from Bogotá. More Colombian examples are needed to determine this point.

The original description of *melanorhynchus* is not very explicit and the figure given by Tschudi in the 'Fauna Peruana,' Aves, Pl. XXI, fig. 1, is not recognizable, but the type specimen was examined by Berlepsch and Hellmayr who established its identity.

Hellmayr's suggestion (1925, Field Mus. Nat. Hist. Publ., Zool. Ser., XIII (4), p. 232, footn. *a*) that this species and *holostictus* might prove to be geographical or zonal representatives is weakened by the specimens now at hand. A specimen of *h. holostictus* from Baeza extends the range of that species into eastern Ecuador not far from Sumaco where *melanoryhnchus* occurs. Likewise, both groups have been found in southeastern Perú, one at Inca Mine (Santo Domingo) and the other in the Marcapata district. Nevertheless, both species have yet to be taken at exactly the same locality.

SPECIMENS EXAMINED

T. m. melanorhynchus.—ECUADOR: Río Suno above Avila, 1 ♂; below San José, 1 ♂; Cutucuo, 1 ♂; lower Sumaco, 2 ♀.

T. m. striaticeps?—COLOMBIA: Buena Vista, above Villavicencio, 1 ♂.

Xenops tenuirostris tenuirostris Pelzeln

Xenops tenuirostris PELZELN, 1859, Sitzb. Akad. Wiss. Wien, XXXIV, p. 112—Salto do Girao [Rio Madeira, w. Brazil]; ♂; Vienna Mus.

A female from Lagarto, upper Ucayali, adds another locality to the Peruvian range of the typical form. The only previous record from Perú is from San Gaban, Carabaya district. Both birds agree with others from east of the Rio Madeira and from the Rio Tapajoz (both banks).

Xenops tenuirostris acutirostris Chapman

Xenops acutirostris CHAPMAN, 1923 (August 28), Amer. Mus. Novitates, No. 86, p. 16—Zamora, Prov. Loja, Ecuador; ♂; Amer. Mus. Nat. Hist.

One female from Río Negro, west of Moyobamba, is in good agreement with the type and other birds from Ecuador and with a male from the Río Huaynía, an affluent of the Cassiquiare, Venezuela. The size of the Peruvian bird is slightly smaller than that of the type and the other males, evidently due to the difference of sex.

There is some confusion with regard to specimens of this species collected by Bartlett in Perú, and it is impossible to allocate the various records without all of the pertinent specimens.

In 1866, Sclater and Salvin (Proc. Zool. Soc. London, p. 566) recorded a single specimen collected by Bartlett at (or near) Nauta or on the lower Ucayali, referring it to *X. heterurus*. In 1873 (Proc. Zool. Soc. London, p. 270), Bartlett, in a paper by Sclater and Salvin, noted that he had secured "two examples only" of "*rutilus*" at Chamicuros, but the present whereabouts of these skins are unknown to me. Taczanowski, in 1884 ('Orn. Pérou,' II, p. 160) lists "Chamicuros (Bartlett)" but not Nauta in his list of localities for *X. rutilus*, and Sclater, in 1890 (Cat. Birds Brit. Mus., XV, p. 111) lists the Nauta skin but not the Chamicuros birds.

Hellmayr has examined the Nauta skin, and places it with *acutirostris*, but I do not know the basis for his inclusion of the Chamicuros record here rather than with the *rutilans* group in which it is placed by Tazcanowski. Until the Chamicuros specimens can be found and examined, the record must remain doubtful.

SPECIMENS EXAMINED

X. t. tenuirostris.—BRAZIL: Barão Melgaço, 1 ♂, 1 ♀; Rio Roosevelt, "6th of March Rapids," 1 ♂; Rio Tapajoz, Igarapé Amorin, 1 ♂; Igarapé Brabo, 1 ♀; Caxiricatuba, 1 ♀. PERÚ: Río Ucayali, Lagarto, 1 ♀; Río San Gaban, 1 ♂[1].

X. t. acutirostris.—PERÚ: Río Negro, west of Moyobamba, 1 ♀. ECUADOR: Zamora, 2 ♂ (incl. type); Río Suno, above Avila, 1 ♂. VENEZUELA: Río Huaynía, junction with the Cassiquiare, 1 ♂.

X. t. hellmayri.—FRENCH GUIANA: Mana, 1 ♀.

Xenops rutilans peruvianus Zimmer

Xenops rutilans peruvianus ZIMMER, 1935 (Sept. 17), Amer. Mus. Novitates, No. 819, p. 7—Idma, Urubamba Valley, Perú; ♀; Amer. Mus. Nat. Hist.

DESCRIPTION OF TYPE.—Top of the head Mummy Brown, prominently streaked with pale ochraceous; hind neck more rufescent, with stripes broader and less sharply

[1] Specimen in Munich Museum.

defined; mantle warm Brussels Brown, with broad, pale ochraceous shaft-stripes not reaching the tips of the feathers; rump and upper tail-coverts dark Sanford's Brown. Lores whitish, continued over the eye and auriculars in a prominent superciliary stripe; postocular stripe and upper part of auriculars fuscous; lower part of auriculars dull yellowish white with traces of dusky margins and bases; subocular space and anterior malar region dull yellowish white; posterior portion of malar region occupied by a conspicuous tuft of silky white feathers; chin and throat dull yellowish white with some fine, dusky, latero-terminal markings on the lower throat and especially on the sides of the throat where they form a dark border adjacent to the white malar tuft; breast, sides, flanks, and belly between Dark Citrine and Medal Bronze, striped with pale yellowish white, broadest on the breast, finer on the belly, and narrowest on the flanks; under tail-coverts tinged with cinnamomeous and with buffy or dull ochraceous shaft-stripes; a cinnamomeous tinge also on the lower abdomen and lower flanks. Primaries and secondaries blackish, with outer margins cinnamomeous, continuing around the tips to the distal portion of the inner webs on all but the outer five quills, broadest and involving the entire outer web of the innermost secondary; a broad ochraceous band across the inner webs of the remiges from the middle of the fourth primary (from the outside) to near the base of the innermost secondary; tertials Tawny × Hazel with faint suggestions of the ochraceous band that is present on the secondaries; under wing-coverts and axillars deep ochraceous. Primary-coverts blackish, with a rufous area extending along the outer webs from the shaft at the base to a subterminal point on the outer margin; rest of upper wing-coverts like the mantle but not clearly streaked, and dusky at the concealed bases. Tail light Auburn with the inner webs of the third and fourth pairs of rectrices (from the middle of the tail) extensively black, leaving the inner margins and tips rufescent, more broadly on the fourth pair; fifth pair with a small blackish area at the base of the inner web; remainder of the tail without appreciable black except at the extreme base. Maxilla (in dried skin) dark brown; mandible dull yellowish; feet dark brown. Wing 73 mm.: tail, 47; exposed culmen, 12; culmen from base, 14; tarsus, 15.

REMARKS.—All the birds examined from the Ucayali and upper Huallaga valleys are like the type, but in skins from farther north, between the lower Huallaga and the Marañón and across the Marañón in Perú and southern Ecuador, there is a noticeable tendency toward the heavily marked tail of *heterurus*. However, no one of the series of twenty birds from this region is comparable to the extremes of *heterurus* although various skins are quite like typical *peruvianus*. The series as a whole is, thus, best referred to *peruvianus*. The grayish tones of *purusianus* are not evident but the ochreous coloration is, rather, intensified and some of the most strongly colored examples are in this series.

At one time I referred the Peruvian birds to *purusianus*, but with the large series from Perú now available showing constant differences, I am enabled to see the limits of variation and to establish the distinctness of the Peruvian form.

As noted above, the east-Peruvian birds have no black on the outer webs of any of the rectrices nor any black spot near the tips of the inner webs of the submedian pair. In the skins from the northwestern area there is sometimes a variable amount of black on the outer webs of one or more pairs, never as strong as in the strongest *heterurus* and frequently on only one of a pair of feathers or sometimes entirely absent; the black spot on the inner webs of the submedian pair also is variable and is completely absent as often as it is present on one or both of this pair of feathers. The color of the under parts is constantly quite ochreous brown.

Peruvian records are from Caradoc, Marcapata, San Miguel Bridge, Río San Miguel, Chanchamayo, La Gloria, Borgoña, Garita del Sol, Ropaybamba, Auquimarca, Tambillo, Guajango, Chirimoto, Cocochó, Huambo, Paltaypampa, and montaña de Palto. Other localities are given in the list of specimens examined.

Among the material examined for comparison are numerous specimens from Brazil, south of the Amazon, from the Matto Grosso highlands and from various states in the eastern part of the country. A skin from the left bank of the Madeira, near its mouth, and two from the left bank of the Tapajoz compare very well with typical specimens of *purusianus* and must be referred to that form.

The Matto Grosso birds appear to be distinct from *purusianus*, with the markings of the tail as in *rutilans* of eastern Brazil, but there are certain other characters which are different from these eastern birds. The Bolivian form, *connectens*, is not the same. With no available name for the Matto Grosso skins the form has been described as follows.

Xenops rutilans chapadensis Zimmer

Xenops rutilans chapadensis Zimmer, 1935 (Sept. 17), Amer. Mus. Novitates, No. 819, p. 8—Chapada, Matto Grosso, Brazil; ♂; Amer. Mus. Nat. Hist.

Description of Type.—Top of head Sepia, with distinct, buffy shaft-streaks; mantle Sayal Brown × Ochraceous-Tawny, distinctly marked with broad shaft-streaks, not reaching the tips of the feathers and becoming obsolete on the lower mantle; lower mantle tinged with rufous, passing into clear Sanford's Brown × Amber Brown on the rump and upper tail-coverts. Lores dull whitish, continued over the eye and auriculars in a prominent superciliary stripe; postocular stripe and upper margin of auriculars Sepia; lower auriculars dull whitish with a dusky lower border; subocular space and anterior malar region like throat; posterior malar region occupied by a silky white tuft; chin and throat dull whitish, the feathers of the lower throat with distinct latero-terminal margins of dark olive; breast with broad central stripes of dull whitish and Light Brownish Olive margins; belly and sides similar but with shaft-stripes narrower; lower belly, lower flanks, and under

tail-coverts Tawny-Olive, with shaft streaks narrow and tinged with cinnamomeous. Primaries and secondaries blackish with cinnamomeous outer margins, continuing around the tips to the distal inner margins of the secondaries and a few inner primaries; a broad ochraceous band across the wing on the inner margins of the quills from near the base of the innermost secondary to the fourth primary (from the outside), reduced, but still evident, on the third and second primaries; tertials bright Cinnamon-Rufous, with some suggestions of the ochraceous band of the other quills; primary-coverts blackish, with rufescent outer margins from the bases of the inner feathers to near the tips of the outer ones; rest of upper wing-coverts with dusky bases and brown tips; under wing-coverts and axillars Cinnamon × Clay Color. Tail light Auburn with the inner webs of the third pair of rectrices (from the middle) black except along the inner margins at the broad tips; fourth pair with a narrow black stripe on the basal third of the inner webs. Maxilla (in dried skin) brownish black; mandible dull, deep yellowish at base, brownish along tomia and at tip; feet blackish. Wing, 65.25 mm.; tail, 48.5; exposed culmen, 11; culmen from base, 14; tarsus, 14.75.

REMARKS.—Females similar but averaging slightly smaller (wing, 64–66 mm. as against 65–70).

Two specimens from Urucum show the extreme development of white on the back but at least one of the Chapada birds shows a close approach. On the other hand, true *rutilans* sometimes has the streaks on the mantle very much reduced and apparently never as strong as in average *chapadensis.*

The warmth of color and the small amount of black on the tail serve to separate these birds from *purusianus;* the broad pectoral stripes, as well as the lesser amount of black in the tail, distinguish them from *peruvianus;* and the broader stripes and warmer color are in contrast to the features of *connectens.*

A skin from southern Piauhy and one from Maranhão are browner (less grayish) below than Bahia birds but differ from both these and from more southern specimens by the encroachment of the dark pectoral margins onto the throat; in this respect they approach *purusianus,* but the black on the tail is as restricted as in Chapada birds and the general color is also extremely similar. It seems probable, therefore, that *chapadensis* ranges eastward over the highlands, at the heads of the valleys, possibly restricted to the "catinga" with whose areas its range appears to coincide.

There is almost certainly a need for revision of the birds of the eastern coast of Brazil. According to material at hand, the birds of Bahia are noticeably grayer on the margins of the ventral feathers and have the broad gular area rather purely white. On the other hand, skins from Espirito Santo, Rio Grande do Sul, Paraná, and São Paulo are dis-

tinctly warmer in the color of the under parts, with the dark margins much more olivaceous, the crissum decidedly more brownish or cinnamomeous, and the throat with somewhat of a yellowish tinge. This is not entirely due to the more worn condition of the Bahia birds although part of it may be thus dismissed. A single skin from Paraguay is intermediate. Judging by Temminck's original plate, *rutilans* has the under parts distinctly olivaceous, with much more color than is shown by the Bahia birds in hand, although the throat is shown and described as white, possibly a more or less general term in this instance. In any case, it seems possible that some segregation is required, perhaps recognizing both *rutilus*, from Bahia, and *rutilans* from more southern states. Four names, *rutilans*, *rutilus*, *affinis*, and *argobronchus*, are available in the combined group and should supply a name for whatever form may be determined as distinct in the coastal region.

Specimens Examined

X. r. rutilans (sensu latu).—Brazil: Bahia, Jiquy, 2 (?); Taguaquará, 1 ♂; Sincorá, 1 ♂; Espirito Santo, Lagoa Juparaná, 1 (?); Baixo Guandú, 1 ♀, 1 (?); Rio Grande do Sul, Hamburgo Velha, 1 ♂; Santa Cruz, 1 ♀; Erebango, 1 (?); Sinimbú, 1 ♀; Paraná, Tibagy, 1 ♂, 1 (?); São Paulo, Rio Frio, 1 ♂. Paraguay: Colonia Independencia, 1 ♂.

X. r. chapadensis.—Brazil: Matto Grosso, Chapada, 7 ♂ (incl. type), 6 ♀, 1 (?); Urucum, 1 ♂, 1 ♀; Piauhy, Corrente, 1 ♂; Maranhão, 1 ♀.

X. r. connectens.—Bolivia: Todos Santos, 2 ♂ (incl. type), 1 ♀; Yungas, Prov. Cochabamba, 1 ♀. Argentina: Ledesma, 1 ♀.

X. r. purusianus.—Brazil: Rio Purus, Arimã, 1 ♂[1]; Hyutanahan, 2 ♂[1], 1 ♀[1]; Rio Madeira, Rosarinho, 1 ♂; Rio Tapajoz, Igarapé Amorin, 2 ♂.

X. r. peruvianus.—Perú: Río Tavara, 1 ♂; Idma, 1 ♂, 1 ♀ (type); foot of Machu Picchu, 1 ♂, 1 ♀; Tulumayo, 1 ♂; Utcuyacu, 1 ♂; mouth of Río Urubamba, 1 ♂; Chinchao, 1 ♂[2]; Huachipa, 2 ♂[2], 1 ♀[2]; Uchco, 1 (?); Río Seco, west of Moyobamba, 1 ♂, 1 (?); Cabico, 1 ♂, 1 ♀; Lomo Santo, 1 ♂, 1 ♀; Jaen, 1 ♂; Perico, 1 ♀; Chaupe, 3 ♂, 2 ♀; San Ignacio, 1 ♂, 1 ♀; Huarandosa, 1 ♀. Ecuador: Sabanilla, 1 ♂, 1 ♀; Zamora, 1 ♂.

X. r. heterurus.—Ecuador: Río Suno, above Avila, 1 ♂, 1 ♀; Baeza, 1 ♂, 1 ♀. Colombia: "Bogotá" 2 (?), 6 (?)[2]; Santa Elena, 2 ♂, 1 (?), 1 (?)[2]; Salento, 2 (?); Río Lima, 1 ♂; Los Tambos, 1 ♂; Río Toche, 2 ♀; east of Palmira, 1 ♂, 1 (?); Antioquia, 1 (?); La Tigrera, 1 ♂; San Antonio, 1 ♀; El Roble, 1 ♂, 1 ♀; Palo Hueco, 1 ♀; Fusugasugá, 1 ♂; Anolaima, 1 (?); near San Augustin, 1 (?); La Frijolera, 1 ♀; Cerro Munchique, 1 ♂. Colombia or Ecuador: (no locality), 1 (?).

X. r. guayae.—Ecuador: Chongon Hills, 1 ♂; Naranjo, 1 ♂, 1 ♀; El Chiral, 2 ♂; Esmeraldas, 1 ♂, 1 ♀; Zaruma, 6 ♂, 1 (?); Portovelo, 1 ♂; Chongocito, 1 (?); Puente de Chimbo, 1 ♀.

[1] Specimens in Carnegie Museum, Pittsburgh.
[2] Specimens in Field Museum of Natural History, Chicago.

X. r. septentrionalis.—Costa Rica: Guayabo, 1 ♂ (type)[2]; Juan Viñas, 1 ♂[1]; Aquinares, 1 ♂, 1 ♀; Navarro, 1 ♀; (no locality), 1 (?). Panamá: Boquete, 2 ♂[2].

Xenops minutus obsoletus Zimmer

Xenops minutus obsoletus Zimmer, 1924 (April 19), Field Mus. Nat. Hist. Publ., Zool. Ser., XII (4), p. 57—Puerto Bermúdez, Perú; ♂; Field Mus. Nat. Hist.

Additional material shows the range of the present form to extend northward through eastern Ecuador.

The transition with *genibarbis* appears to take place just east of the Rio Madeira. One skin from Igarapé Auará, near Borba, is rather heavily marked and could be referred to *obsoletus* but another specimen from Borba is nearer to *genibarbis*. A bird from the Rio Roosevelt is equivocal but apparently is nearer to *genibarbis*. Birds from west of the Madeira are *obsoletus*.

Records of *obsoletus* include the following Peruvian localities from which material is not at hand: La Gloria, Monterico, Chayavitas, Chamicuros, Moyobamba, Huayabamba, Yurimaguas, and Nauta.

Among the material used for comparison are numerous skins from the Guianas, Venezuela, and Brazil north of the Amazon. This material is not uniform and while most of it is referable to *ruficaudus*, the specimens from the right bank of the upper Rio Negro are consistently different from the Guianan examples and have been distinguished as follows.

Xenops minutus remoratus Zimmer

Xenops minutus remoratus Zimmer, 1935 (Sept. 17), Amer. Mus. Novitates, No. 819, p. 7—Tatú, Rio Negro, Brazil; ♂; Amer. Mus. Nat. Hist.

Description of Type.—Top of head dark Saccardo's Umber, with forehead a little paler but without the strong streaks of *ruficaudus;* upper back near light Brownish Olive; rump warm Saccardo's Umber; upper tail-coverts more rufescent, Cinnamon × Sayal Brown. Lores whitish, with a dusky line on the upper margin; a broad superciliary stripe of Pinkish Buff; auriculars sooty, with shafts buffy at bases; anterior portion of malar region dull grayish buff; beneath the auriculars a broad stripe of silvery white. Chin whitish; throat dull brownish olive with buffy or whitish shaft-stripes not sharply defined; chest with pale shaft-marks deeper in color; lower breast almost unmarked; lower under parts paler and grayer than Light Brownish Olive. Remiges largely blackish, marked with ochraceous cinnamon; secondaries with a cinnamomeous patch near the bases of the feathers (just beyond the greater coverts), crossing both webs; inner primaries similar but succeeding ones with the bright area advancing distad, becoming divided at the shaft, and reduced in size, obsolete on the two outermost primaries; outer primary, however, with a buffy outer margin, suggested at base of second quill. Tips of secondaries cinnamon, the color extending a little basad along the outer margin

[1] Specimens in Carnegie Museum, Pittsburgh.
[2] Specimens in Museum of Comparative Zoölogy, Cambridge.

to which it is restricted on the primaries, narrowest and dullest on the middle primaries where it coalesces with the brighter median spot; tertials duller, buffy brown, with a blackish shaft streak on the longest. Primary-coverts blackish, with a broad brownish buff area at base of outer webs; greater coverts blackish, with brownish outer margins, broadest on inner ones; median and lesser series warmer brown than the back, with some traces of dusky on the centers. Under wing-coverts bright orange-ochraceous. Median rectrices light Hazel with narrow black bases, concealed by the upper tail-coverts; second and third pairs (from middle) black; remainder with black bases and Hazel tips, the tips narrow on the fourth pair, reaching to the tips of the under tail-coverts on the outer pair. Bill (in dried skin) blackish brown, with basal half of gonys and mandibular rami dull whitish. Feet pale brownish. Wing, 65 mm.; tail, 44.5; exposed culmen, 12; culmen from base, 15.5; tarsus, 14.

REMARKS.—Female similar to the male but apparently averages slightly smaller; wing 58–63 mm.; tail 41–46.25. Males measure: wing 60–65 mm.; tail, 42.25–46.50.

Specimens from both banks of the Cassiquiare are equivocal. They have the top of the head slightly more strongly streaked than in *remoratus* but usually less than in *ruficaudus*, and the general color is likewise intermediate. Skins from the vicinity of Mt. Duida apparently are rather typical *ruficaudus*.

It has been suspected for some time that an unknown form of *X. minutus* occurred on the upper Rio Negro, but lack of material has delayed its recognition. Several years ago I examined a skin in the U. S. National Museum, collected by Natterer at Marabitanas, one of the cotypes of *approximans* Pelzeln. While it is somewhat faded, it shows some of the characters of *remoratus* although it approaches *ruficaudus* in the traces of streaks on the crown.

A specimen from the Bogotá region of eastern Colombia is not to be matched in any of the extensive series of the various known forms from adjacent regions. It probably is somewhat foxed and its colors are, therefore, not reliable, but it is brighter on the mantle than *genibarbis* while the top of the head is duller, though similarly unstreaked. The under parts are browner than in *genibarbis* although the general resemblance is closer to that form than to any other. Possibly another new form is here awaiting confirmation.

I am not entirely satisfied with the present disposition of *X. m. ridgwayi*. Our specimens from Veraguas and Boca del Toro are quite distinct from *littoralis* and *mexicanus* by reason of paler, less rufous mantle and darker under parts, and probably represent *ridgwayi*. One bird from Barro Colorado Island is similar, but a skin from Gatun, one from El Real, one from Tapalisa, and one from Tacarcuna, though

relatively dark below, are also rather dark and rufescent above, approaching *littoralis*. Other skins from Tacarcuna, Tapalisa, and nearby regions of extreme eastern Panamá are inseparable from *littoralis*.

I am uncertain as to the exact location of "Tocoumé," the type-locality of *ridgwayi*, which affects the present problem materially. If it is the same as "Tocumen," east of the Canal Zone, it is in the area where the birds appear to be less well marked than those of western Panamá, as witness the Gatun skin now before me. If farther west, in the neighborhood of the islands of Iguaros, Sevilla, Almijos, and Medidor (localities of some of the paratypes) the allocation of the name *ridgwayi* is less in doubt.

Several Costa Rican examples are more rufescent above than typical *ridgwayi* and show a possible approach toward *mexicanus*, but eleven others from Costa Rica and four Nicaraguan skins are again lighter in color although another, from the Río Coco, on the boundary of Honduras, is rather clearly referable to *mexicanus*.

More material is needed from parts of Central America to delimit the ranges of these forms.

Specimens Examined

X. m. minutus.—Brazil: Paraná, Foz de Iguassu, 1 ♂; Espirito Santo, Lagoa Juparaná, 1 ♀, 1 (?); Baião Grande, 1 ♂; Bahia, Taguanaquara, 1 ♀. Paraguay: Colonia Independencia, 1 ♂, 1 ♀.

X. m. genibarbis.—Brazil: Utinga, 1 ♂, 1 ♀, 1 (?); Benevides, 4 ♂[1], 1 ♀[1]; Rio Tocantins, Cametá, 1 ♂; Baião, 3 ♂, 3 ♀; Mocajuba, 1 ♂, 1 ♀; Rio Xingú, Tapará, 3 ♂; Villarinho do Monte, 4 ♂; Porto de Moz, 2 ♂, 1 ♀; Rio Tapajoz, Igarapé Amorin, 1 ♂; Aramanay, 2 ♂, 3 ♀; Limoãl, 1 ♂; Tauarý, 2 ♂, 2 ♀, 1 (?); Igarapé Brabo, 3 ♂, 4 ♀, 1 (?); Rio Amazonas, Villa Bella Imperatríz, 1 ♂, 1 ♀; Rio Madeira (right bank), Borba, 1 ♀; Igarapé Auará, 1 ♀[2]; Rio Roosevelt, Camp 29, 1 ♀.

X. m. obsoletus.—Perú: Puerto Bermúdez, 1 ♂ (type)[3]; Huachipa, 1 ♂[3], 1 ♀[3]; Río Colorado, Chanchamayo Valley, 1 ♀[3]; Sarayacu, 1 ♀; Santa Rosa, Río Ucayali, 4 ♂; Lagarto, 2 ♂, 1 ♀; Tulumayo, Junín, 1 ♂; La Pampa, 1 ♂; Río Tavara, 1 ♂. Bolivia: Todos Santos, 2 ♂; mouth of Río San Antonio, 1 ♂; Mapiri, 1 ♂. Ecuador: mouth of Río Curaray, 1 ♂, 1 ♀; below San José, 3 ♂; lower Río Suno, 4 ♂; Río Suno, above Avila, 1 ♂, 3 ♀.

X. m. ruficaudus.—French Guiana: Tamanoir, 8 ♂[1], 4 ♂[1]; Mana, 1 ♂[1]; Pied Saut, 1 ♂[1]. Dutch Guiana: Paramaribo, 1 ♂, 1 (?). British Guiana: Wismar, 1 ♂; Potaro Landing, 1 ♂, 2 ♀; Tumatumari, 1 ♀; Rockstone, 2 ♂, 1 ♀; Kamakusa, 1 ♂. Brazil: Faro, Castanhal, 6 ♂, 6 ♀, 1 (?); Faro, San José, 7 ♂; Conçeiçao, 1 (?)[3]; Manaos, 1 ♂, 1 (?)[3]. Venezuela: La Unión, 1 ♂; Suapuré, 1 ♀; upper Río Caura, 3 ♂[1], 3 ♀[1], 1 (?)[1]; Cristóbal Colón, 3 ♂, 1 ♀;

[1] Specimens in Carnegie Museum, Pittsburgh.
[2] Not typical.
[3] Specimens in Field Museum of Natural History, Chicago.

(western) foot of Mt. Duida, 1 ♀; Esmeralda, 3 ♂, 1 ♀; Playa del Río Base, 5 ♂, 2 ♀; Valle de los Monos, 1 ♂, 1 ♀; Savana Grande, 2 ♂, 1 ♀; Pie del Cerro, 2 ♂, 1 (?); Rio Orinoco, mouth of Río Ocamo, 1 ♀; opposite mouth of Río Ocamo, 1 ♂, 1 ♀.

X. m. remoratus.—BRAZIL: Rio Negro (right bank), Tatú, 2 ♂ (incl. type), 3 ♀; Santa Maria, 1 ♂, 1 ♀; Tabocal, 2 ♂ Mt. Curycuryari, 1 (?); Yucabi, 1 ♀; Rio Uaupés, Tahuapunto, 2 ♂; Ianarete, 1 ♀, 1 (?); Marabitanas, 1 ♂[1]. COLOMBIA: opposite Tahuapunto, Brazil, 1 ♀.

X. m. remoratus × *ruficaudus.*—VENEZUELA: Río Cassiquiare, El Merey, 1 ♂, 1 ♀; opposite El Merey, 3 ♂, 1 ♀; Buena Vista, 1 ♀, 1 (?); Solano, 1 ♂; Río Huaynía, junction with the Cassiquiare, 1 ♂.

X. m. littoralis.—ECUADOR: Esmeraldas, 3 ♂, 2 ♀; Chongon Hills, 1 ♀; Naranjo, 1 ♂, 1 (?); Río de Oro, 3 ♂, 1 ♀. COLOMBIA: Barbacoas, 1 (?); Puerto Valdivia, 1 ♂, 1 ♀; Nóvita trail, 1 ♂; Río Frío, 1 ♂, 1 ♀; Malena, 1 ♂; Los Cisneros, 2 ♂; Buenaventura, 1 ♂. PANAMÁ: Boca de Cupe, 1 ♂; Tacarcuna, 2 ♂, 1 ♀; Chepigana, 1 ♂; Tapalisa, 2 ♂, 1 ♀; El Real, 1 ♂.

X. m. littoralis × *ridgwayi.*—PANAMÁ: Barro Colorado Island, 1 ♂; Gatun, 1 ♂; (Lion Hill), 1 ♂, 1 ♀.

X. m. ridgwayi.—PANAMÁ: Almirante, 5 ♂, 1 ♀; Santa Fé, Veraguas, 3 ♂, 2 ♀; Santiago, 1 ♀; La Marea, 1 ♀; El Villano, 3 ♂; Wilcox Camp, 1 ♂. COSTA RICA: Pozo de Río Grande, 1 ♂[2], 1 ♀[2], 1 (?)[2]; Boruca, 1 ♂[2]; Paso Real, 1 ♂[2]; Aquinares, 2 ♂, 1 ♀; Atalanta, 2 ♂; Bonilla, 2 ♂, 1 ♀; Guapiles, 1 ♂; Parismina, 1 ♀; Miravalles, 1 ♀. NICARAGUA: Los Sabalos, 1 ♂; Savala, 1 ♀; Río Grande, 1 ♀.

X. m. mexicanus.—NICARAGUA: Río Coco, 1 ♂; GUATEMALA: (no locality), 2 (?). MEXICO: Río Givicia, Oaxaca, 1 ♂.

X. m. neglectus.—COLOMBIA: Santa Marta, Minca, 1 ♂, 1 ♀; Cacagualito, 1 ♀; Bonda, 1 (?).

X. m. subsp.—COLOMBIA: (Bogotá), 1 (?).

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[1] Not typical.
[2] Specimen in U. S. National Museum, Washington.